TABLE V.—COMPARISON OF TOTAL PAYMENTS PER CASE—Continued

[FY 2000 payments compared to FY 2001 payments]

	Number of hospitals	Average FY 2000 payments/case	Average FY 2001 payments/case	All changes	Portion attributable to federal rate change
Pacific	139	506	543	7.4	1.4
By Payment Classification:					
All hospitals	4,792	641	665	3.8	0.3
Large urban areas (populations over 1 million)	1,618	736	763	3.6	0.1
Other urban areas (populations of 1 million or fewer)	1,136	628	650	3.5	0.2
Rural areas	2,038	425	446	4.8	1.5
Teaching Status:					
Non-teaching	3,682	530	549	3.5	0.6
Fewer than 100 Residents	871	669	694	3.7	0.3
100 or more Residents	239	979	1,022	4.4	−0.2
Urban DSH:					
100 or more beds	1,379	733	759	3.6	0.1
Less than 100 beds	70	570	604	5.9	0.5
Rural DSH:					
Sole Community (SCH/EACH)	149	382	399	4.5	2.1
Referral Center (RRC/EACH)	56	490	506	3.2	1.0
Other Rural:					
100 or more beds	48	383	401	4.9	2.3
Less than 100 beds	102	343	360	5.0	1.9
Urban teaching and DSH:					
Both teaching and DSH	720	807	838	3.8	0.1
Teaching and no DSH	325	699	728	4.1	0.2
No teaching and DSH	729	603	621	3.1	0.2
No teaching and no DSH	980	570	588	3.0	0.2
Rural Hospital Types:					
Non special status hospitals	819	376	394	5.0	1.7
RRC/EACH	150	493	515	4.3	1.4
SCH/EACH	661	425	448	5.5	1.5
Medicare-dependent hospitals (MDH)	351	356	377	5.7	1.9
SCH, RRC and EACH	57	499	516	3.5	0.6
Hospitals Reclassified by the Medicare Geographic Classification Review Board:					
Reclassification Status During FY00 and FY01:					
Reclassified During Both FY00 and FY01	377	546	569	4.1	0.9
Reclassified During FY01 Only	149	531	579	9.1	6.0
Reclassified During FY00 Only	131	553	546	−1.2	−3.1
FY01 Reclassifications:					
All Reclassified Hospitals	526	543	571	5.2	2.0
All Nonreclassified Hospitals	4,268	654	679	3.8	0.3
All Urban Reclassified Hospitals	88	701	746	6.3	2.3
Urban Nonreclassified Hospitals	2,559	696	720	3.5	0.0
All Reclassified Rural Hospitals	438	488	510	4.7	1.9
Rural Nonreclassified Hospitals	1,681	386	404	4.6	1.0
Other Reclassified Hospitals (Section 1886(D)(8)(B))	26	463	473	2.1	0.7
Type of Ownership:					
Voluntary	2,520	655	680	3.7	0.3
Proprietary	655	626	643	2.6	−0.1
Government	1,093	576	602	4.5	0.6
Medicare Utilization as a Percent of Inpatient Days:					
0–25	369	801	838	4.7	0.1
25–50	1,820	736	763	3.7	0.0
50–65	1,882	568	590	3.8	0.6
Over 65	688	512	528	3.2	0.7

Appendix B: Technical Appendix on the Capital Cost Model and Required Adjustments

Under section 1886(g)(1)(A) of the Act, we set capital prospective payment rates for FY 1992 through FY 1995 so that aggregate prospective payments for capital costs were projected to be 10 percent lower than the amount that would have been payable on a reasonable cost basis for capital-related costs in that year. To implement this requirement, we developed the capital acquisition model to determine the budget neutrality adjustment factor. Even though the budget neutrality requirement expired effective with FY 1996, we must continue to determine the recalibration and geographic reclassification budget neutrality adjustment factor and the reduction in the Federal and hospital-specific rates for exceptions payments.

To determine these factors, we must continue to project capital costs and payments.

We used the capital acquisition model from the start of prospective payments for capital costs through FY 1997. We now have 7 years of cost reports under the capital prospective payment system. For FY 1998, we developed a new capital cost model to replace the capital acquisition model. This revised model makes use of the data from these cost reports.

The following cost reports are used in the capital cost model for this final rule: the March 31, 2000 update of the cost reports for

PPS–IX (cost reporting periods beginning in FY 1992), PPS–X (cost reporting periods beginning in FY 1993), PPS–XI (cost reporting periods beginning in FY 1994), PPS–XII (cost reporting periods beginning in FY 1995), PPS–XIII (cost reporting periods beginning in FY 1996), PPS–XIV (cost reporting periods beginning in FY 1997), and PPS–XV (cost reporting periods beginning in FY 1998). In addition, to model payments, we use the April 1, 2000 update of the provider-specific file, and the March 1994 update of the intermediary audit file.

Since hospitals under alternative payment system waivers (that is, hospitals in Maryland) are currently excluded from the capital prospective payment system, we excluded these hospitals from our model.

We developed FY 1992 through FY 2000 hospital-specific rates using the provider-specific file and the intermediary audit file. (We used the cumulative provider-specific file, which includes all updates to each hospital's records, and chose the latest record for each fiscal year.) We checked the consistency between the provider-specific file and the intermediary audit file. We ensured that increases in the hospital-specific rates were at least as large as the published updates (increases) for the hospital-specific rates each year. We were able to match hospitals to the files as shown in the following table:

Source	Number of hospitals
Provider-Specific File Only	173
Provider-Specific and Audit File	4,715
Total	4,888

One hundred forty-three of the 4,888 hospitals had unusable or missing data, or had no cost reports available. For 42 of the 143 hospitals, we were unable to determine a hospital-specific rate from the available cost reports. However, there was adequate cost information to determine that these hospitals were paid under the hold-harmless methodology. Since the hospital-specific rate is not used to determine payments for hospitals paid under the hold-harmless methodology, there was sufficient cost report information available to include these 42 hospitals in the analysis. We were able to estimate hospital-specific amounts for five additional hospitals from the cost reports as shown in the following table:

Cost report	Number of hospitals
PPS–9	1
PPS–12	2
PPS–14	1
PPS–15	1
Total	5

Hence we were able to use 47 of the 143 hospitals. We used 4,792 hospitals for the analysis. Ninety-six hospitals could not be used in the analysis because of insufficient information. These hospitals account for less than 0.5 percent of admissions. Therefore, any effects from the elimination of their cost report data should be minimal.

We analyzed changes in capital-related costs (depreciation, interest, rent, leases, insurance, and taxes) reported in the cost reports. We found a wide variance among hospitals in the growth of these costs. For hospitals with more than 100 beds, the distribution and mean of these cost increases were different for large changes in bed-size (greater than ±20 percent). We also analyzed changes in the growth in old capital and new capital for cost reports that provided this information. For old capital, we limited the analysis to decreases in old capital. We did this since the opportunity for most hospitals to treat ''obligated'' capital put into service as old capital has expired. Old capital costs should decrease as assets become fully depreciated and as interest costs decrease as the loan is amortized.

The new capital cost model separates the hospitals into three mutually exclusive groups. Hold-harmless hospitals with data on old capital were placed in the first group. Of the remaining hospitals, those hospitals with fewer than 100 beds comprise the second group. The third group consists of all hospitals that did not fit into either of the first two groups. Each of these groups displayed unique patterns of growth in capital costs. We found that the gamma distribution is useful in explaining and describing the patterns of increase in capital costs. A gamma distribution is a statistical distribution that can be used to describe patterns of growth rates, with the greatest proportion of rates being at the low end. We use the gamma distribution to estimate individual hospital rates of increase as follows:

(1) For hold-harmless hospitals, old capital cost changes were fitted to a truncated gamma distribution, that is, a gamma distribution covering only the distribution of cost decreases. New capital costs changes were fitted to the entire gamma distribution, allowing for both decreases and increases.

(2) For hospitals with fewer than 100 beds (small), total capital cost changes were fitted to the gamma distribution, allowing for both decreases and increases.

(3) Other (large) hospitals were further separated into three groups:

- Bed-size decreases over 20 percent (decrease).
- Bed-size increases over 20 percent (increase).
- Other (no change).

Capital cost changes for large hospitals were fitted to gamma distributions for each bed-size change group, allowing for both decreases and increases in capital costs. We analyzed the probability distribution of increases and decreases in bed size for large hospitals. We found the probability somewhat dependent on the prior year change in bed size and factored this dependence into the analysis. Probabilities of bed-size change were determined. Separate sets of probability factors were calculated to reflect the dependence on prior year change in bed size (increase, decrease, and no change).

The gamma distributions were fitted to changes in aggregate capital costs for the entire hospital. We checked the relationship between aggregate costs and Medicare per discharge costs. For large hospitals, there was a small variance, but the variance was larger for small hospitals. Since costs are used only for the hold-harmless methodology and to determine exceptions, we decided to use the gamma distributions fitted to aggregate cost increases for estimating distributions of cost per discharge increases.

Capital costs per discharge calculated from the cost reports were increased by random numbers drawn from the gamma distribution to project costs in future years. Old and new capital were projected separately for hold-harmless hospitals. Aggregate capital per discharge costs were projected for all other hospitals. Because the distribution of increases in capital costs varies with changes in bed size for large hospitals, we first projected changes in bed size for large hospitals before drawing random numbers from the gamma distribution. Bed-size changes were drawn from the uniform distribution with the probabilities dependent on the previous year bed-size change. The gamma distribution has a shape parameter and a scaling parameter. (We used different parameters for each hospital group, and for old and new capital.)

We used discharge counts from the cost reports to calculate capital cost per discharge. To estimate total capital costs for FY 1999 (the MedPAR data year) and later, we use the number of discharges from the MedPAR data. Some hospitals had considerably more discharges in FY 1999 than in the years for which we calculated cost per discharge from the cost report data. Consequently, a hospital with few cost report discharges would have a high capital cost per discharge, since fixed costs would be allocated over only a few discharges. If discharges increase substantially, the cost per discharge would decrease because fixed costs would be allocated over more discharges. If the projection of capital cost per discharge is not adjusted for increases in discharges, the projection of exceptions would be overstated. We address this situation by recalculating the cost per discharge with the MedPAR discharges if the MedPAR discharges exceed the cost report discharges by more than 20 percent. We do not adjust for increases of less than 20 percent because we have not received all of the FY 1999 discharges, and we have removed some discharges from the analysis because they are statistical outliers. This adjustment reduces our estimate of exceptions payments, and consequently, the reduction to the Federal rate for exceptions is smaller. We will continue to monitor our modeling of exceptions payments and make adjustments as needed.

The average national capital cost per discharge generated by this model is the combined average of many randomly generated increases. This average must equal the projected average national capital cost per discharge, which we projected separately (outside this model). We adjusted the shape parameter of the gamma distributions so that the modeled average capital cost per discharge matches our projected capital cost per discharge. The shape parameter for old capital was not adjusted since we are

modeling the aging of ''existing'' assets. This model provides a distribution of capital costs among hospitals that is consistent with our aggregate capital projections.

Once each hospital's capital-related costs are generated, the model projects capital payments. We use the actual payment parameters (for example, the case-mix index and the geographic adjustment factor) that are applicable to the specific hospital.

To project capital payments, the model first assigns the applicable payment methodology (fully prospective or hold-harmless) to the hospital as determined from the provider-specific file and the cost reports. The model simulates Federal rate payments using the assigned payment parameters and hospital-specific estimated outlier payments. The case-mix index for a hospital is derived from the FY 1999 MedPAR file using the FY 2001 DRG relative weights included in section VI. of the Addendum to this final rule. The case-mix index is increased each year after FY 1999 based on analysis of past experiences in case-mix increases. Based on analysis of recent case-mix increases, we estimate that case-mix will increase 0.0 percent in FY 2000. We project that case-mix will increase 0.0 percent in FY 2001. (Since we are using FY 1999 cases for our analysis, the FY 1999 increase in case-mix has no effect on projected capital payments.)

Changes in geographic classification and revisions to the hospital wage data used to establish the hospital wage index affect the geographic adjustment factor. Changes in the DRG classification system and the relative weights affect the case-mix index.

Section 412.308(c)(4)(ii) requires that the estimated aggregate payments for the fiscal year, based on the Federal rate after any changes resulting from DRG reclassifications and recalibration and the geographic adjustment factor, equal the estimated aggregate payments based on the Federal rate that would have been made without such changes. For FY 2000, the budget neutrality adjustment factors were 1.00142 for the national rate and 1.00134 for the Puerto Rico rate.

Since we implemented a separate geographic adjustment factor for Puerto Rico, we applied separate budget neutrality adjustments for the national geographic adjustment factor and the Puerto Rico geographic adjustment factor. We applied the same budget neutrality factor for DRG reclassifications and recalibration nationally and for Puerto Rico. Separate adjustments were unnecessary for FY 1998 and earlier since the geographic adjustment factor for Puerto Rico was implemented in FY 1998.

To determine the factors for FY 2001, we first determined the portions of the Federal national and Puerto Rico rates that would be paid for each hospital in FY 2001 based on its applicable payment methodology. Using our model, we then compared, separately for the national rate and the Puerto Rico rate, estimated aggregate Federal rate payments based on the FY 2000 DRG relative weights and the FY 2000 geographic adjustment factor to estimated aggregate Federal rate payments based on the FY 2000 relative weights and the FY 2001 geographic adjustment factor. In making the comparison, we held the FY 2001 Federal rate portion constant and set the other budget neutrality adjustment factor and the exceptions reduction factor to 1.00. To achieve budget neutrality for the changes in the national geographic adjustment factor, we applied an incremental budget neutrality adjustment of 0.99782 for FY 2001 to the previous cumulative FY 2000 adjustment of 1.00142, yielding a cumulative adjustment of 0.99924 through FY 2001. For the Puerto Rico geographic adjustment factor, we applied an incremental budget neutrality adjustment of 1.00365 for FY 2001 to the previous cumulative FY 2000 adjustment of 1.00134, yielding a cumulative adjustment of 1.00499 through FY 2001. We then compared estimated aggregate Federal rate payments based on the FY 2000 DRG relative weights and the FY 2001 geographic adjustment factors to estimated aggregate Federal rate payments based on the FY 2001 DRG relative weights and the FY 2001 geographic adjustment factors. The incremental adjustment for DRG classifications and changes in relative weights would be 1.00009 nationally and for Puerto Rico. The cumulative adjustments for DRG classifications and changes in relative weights and for changes in the geographic adjustment factors through FY 2001 would be 0.99933 nationally and 1.00508 for Puerto Rico. The following table summarizes the adjustment factors for each fiscal year:

BUDGET NEUTRALITY ADJUSTMENT FOR DRG RECLASSIFICATIONS AND RECALIBRATION AND THE GEOGRAPHIC ADJUSTMENT FACTORS

Fiscal year	National				Puerto Rico			
	Incremental adjustment			Cumulative	Incremental adjustment			Cumulative
	Geographic adjustment factor	DRG reclassifications and recalibration	Combined		Geographic adjustment factor	DRG reclassifications and recalibration	Combined	
1992	.....	.....	.....	1.00000	.....	.....	.....	.....
1993	.....	.....	0.99800	0.99800	.....	.....	.....	.....
1994	.....	.....	1.00531	1.00330	.....	.....	.....	.....
1995	.....	.....	0.99980	1.00310	.....	.....	.....	.....
1996	.....	.....	0.99940	1.00250	.....	.....	.....	.....
1997	.....	.....	0.99873	1.00123	.....	.....	.....	.....
1998	.....	.....	0.99892	1.00015	.....	.....	.....	1.00000
1999	0.99944	1.00335	1.00279	1.00294	0.99898	1.00335	1.00233	1.00233
2000	0.99857	0.99991	0.99848	1.00142	0.99910	0.99991	0.99901	1.00134
2001	0.99782	1.00009	0.99791	0.99933	1.00365	1.00009	1.00374	1.00508

The methodology used to determine the recalibration and geographic (DRG/GAF) budget neutrality adjustment factor is similar to that used in establishing budget neutrality adjustments under the prospective payment system for operating costs. One difference is that, under the operating prospective payment system, the budget neutrality adjustments for the effect of geographic reclassifications are determined separately from the effects of other changes in the hospital wage index and the DRG relative weights. Under the capital prospective payment system, there is a single DRG/GAF budget neutrality adjustment factor (the national rate and the Puerto Rico rate are determined separately) for changes in the geographic adjustment factor (including geographic reclassification) and the DRG relative weights. In addition, there is no adjustment for the effects that geographic reclassification has on the other payment parameters, such as the payments for serving low-income patients or the large urban add-on payments.

In addition to computing the DRG/GAF budget neutrality adjustment factor, we used the model to simulate total payments under the prospective payment system.

Additional payments under the exceptions process are accounted for through a reduction in the Federal and hospital-specific rates. Therefore, we used the model to calculate the exceptions reduction factor. This exceptions reduction factor ensures that aggregate payments under the capital prospective payment system, including exceptions payments, are projected to equal the aggregate payments that would have been made under the capital prospective payment system without an exceptions process. Since changes in the level of the payment rates change the level of payments under the exceptions process, the exceptions reduction factor must be determined through iteration.

In the August 30, 1991 final rule (56 FR 43517), we indicated that we would publish each year the estimated payment factors

generated by the model to determine payments for the next 5 years. The table below provides the actual factors for FYs 1992 through 2000, the final factors for FY 2001, and the estimated factors that would be applicable through FY 2005. We caution that these are estimates for FYs 2002 and later, and are subject to revisions resulting from continued methodological refinements, receipt of additional data, and changes in payment policy. We note that in making these projections, we have assumed that the cumulative national DRG/GAF budget neutrality adjustment factor will remain at 0.99933 (1.00508 for Puerto Rico) for FY 2001 and later because we do not have sufficient information to estimate the change that will occur in the factor for years after FY 2001.

The projections are as follows:

Fiscal year	Update factor	Exceptions reduction factor	Budget neutrality factor	DRG/GAF adjustment factor [1]	Outlier adjustment factor	Federal rate adjustment	Federal rate (after outlier reduction)
1992	N/A	0.9813	0.9602	.....	.9497	.....	415.59
1993	6.07	.9756	.9162	.9980	.9496	.....	417.29
1994	3.04	.9485	.8947	1.0053	.9454	[2] .9260	378.34
1995	3.44	.9734	.8432	.9998	.9414	.....	376.83
1996	1.20	.9849	N/A	.9994	.9536	[3] .9972	461.96
1997	0.70	.9358	N/A	.9987	.9481	.....	438.92
1998	0.90	.9659	N/A	.9989	.9382	[4] .8222	371.51
1999	0.10	.9783	N/A	1.0028	.9392	.....	378.10
2000	0.30	.9730	N/A	.9985	.9402	.....	377.03
2001	0.90	.9785	N/A	.9979	.9409	.....	382.03
2002	0.90	[6] 1.0000	N/A	[5] 1.0000	[5] .9409	.....	393.94
2003	0.90	[6] 1.0000	N/A	1.0000	.9409	[4] 1.0255	407.64
2004	0.80	[6] 1.0000	N/A	1.0000	.9409	.....	410.90
2005	0.90	[6] 1.0000	N/A	1.0000	.9409	.....	414.60

[1] Note: The incremental change over the previous year.
[2] Note: OBRA 1993 adjustment.
[3] Note: Adjustment for change in the transfer policy.
[4] Note: Balanced Budget Act of 1997 adjustment.
[5] Note: Future adjustments are, for purposes of this projection, assumed to remain at the same level.
[6] Note: We are unable to estimate exceptions payments for the year under the special exceptions provision (§ 412.348(g) of the regulations) because the regular exceptions provision (§ 412.348(e)) expires.

Appendix C: Recommendation of Update Factors for Operating Cost Rates of Payment for Inpatient Hospital Services

I. Background

Several provisions of the Act address the setting of update factors for inpatient services furnished in FY 2001 by hospitals subject to the prospective payment system and by hospitals or units excluded from the prospective payment system. Section 1886(b)(3)(B)(i)(XVI) of the Act sets the FY 2001 percentage increase in the operating cost standardized amounts equal to the rate of increase in the hospital market basket minus 1.1 percent for prospective payment hospitals in all areas. Section 1886(b)(3)(B)(iv) of the Act sets the FY 2001 percentage increase in the hospital-specific rates applicable to sole community and Medicare-dependent, small rural hospitals equal to the rate set forth in section 1886(b)(3)(B)(i) of the Act. For Medicare-dependent, small rural hospitals, the percentage increase is the same update factor as all other hospitals subject to the prospective payment system, or the rate of increase in the market basket minus 1.1 percentage points. Section 406 of Public Law 106–113 amended section 1886(b)(3)(B)(i) of the Act to provide that, for sole community hospitals, the rate of increase for FY 2001 is equal to the market basket percentage increase.

Under section 1886(b)(3)(B)(ii) of the Act, the FY 2001 percentage increase in the rate-of-increase limits for hospitals and units excluded from the prospective payment system ranges from the percentage increase in the excluded hospital market basket less a percentage between 0 and 2.5 percentage points, depending on the hospital's or unit's costs in relation to its limit for the most recent cost reporting period for which information is available, or 0 percentage point if costs do not exceed two-thirds of the limit.

In accordance with section 1886(d)(3)(A) of the Act, we are updating the standardized amounts, the hospital-specific rates, and the rate-of-increase limits for hospitals and units excluded from the prospective payment system as provided in section 1886(b)(3)(B) of the Act. Based on the second quarter 2000 forecast of the FY 2001 market basket increase of 3.4 percent for hospitals and units subject to the prospective payment system, the update to the standardized amounts is 2.3 percent (that is, the market basket rate of increase minus 1.1 percent percentage points) for hospitals in both large urban and other areas. The update to the hospital-specific rate applicable to Medicare-dependent, small rural hospitals is also 2.3 percent. The update to the hospital-specific rate applicable to sole community hospitals is 3.4 percent. The update for hospitals and units excluded from the prospective payment system can range from the percentage increase in the excluded hospital market basket (currently estimated at 3.4 percent) minus a percentage between 0 and 2.5 percentage points, or 0 percentage point, resulting in an increase in the rate-of-increase limit between 0.9 and 3.4 percent, or zero percent (see section V of the Addendum of this final rule).

Section 1886(e)(4) of the Act requires that the Secretary, taking into consideration the recommendations of the Medicare Payment Advisory Commission (MedPAC), recommend update factors for each fiscal year that take into account the amounts necessary for the efficient and effective delivery of medically appropriate and necessary care of high quality. Under section 1886(e)(5) of the Act, we are required to publish the update factors recommended under section 1886(e)(4) of the Act. Accordingly, we published the FY 2001 update factors recommended by the Secretary in Appendix D of the May 5, 2000 proposed rule (65 FR 26434). In its March 1, 2000 report, MedPAC did not make a specific update recommendation for FY 2001 payments for Medicare acute inpatient hospitals. However, in its June 1, 2000 report, which was issued after the May 5, 2000 proposed rule, MedPAC recommended a combined operating and capital update for hospital inpatient prospective payment system payments for FY 2001. We describe the basis of our FY 2001 update recommendation in Appendix D of the May 5, 2000 proposed rule at 65 FR 26434. Our responses to the MedPAC recommendations concerning the update factors for FY 2001 are discussed below in section II of this Appendix.

II. Secretary's Recommendations

Under section 1886(e)(4) of the Act, in the May 5, 2000 proposed rule, we recommended that an appropriate update factor for the standardized amounts was 2.0 percentage points for hospitals located in large urban and other areas. We also recommended an update of 2.0 percentage points to the hospital-specific rate for Medicare-dependent, small rural hospitals. In addition, we recommended an update of 3.1 percentage points to the hospital-specific rate for sole community hospitals. We believed these recommended update factors would ensure that Medicare acts as a prudent purchaser and provide incentives to hospitals for increased efficiency, thereby contributing to the solvency of the Medicare Part A Trust Fund.

Also in the proposed rule, we recommended that hospitals excluded from the prospective payment system receive an update of between 0.6 and 3.1 percentage

points, or zero percentage points. The update for excluded hospitals and units is equal to the increase in the excluded hospital operating market basket less a percentage between 0 and 2.5 percentage points, or 0 percentage points, depending on the hospital's or unit's costs in relation to its rate-of-increase limit for the most recent cost reporting period for which information is available. For the proposed rule, the market basket rate of increase for excluded hospitals and units was forecast at 3.1 percent.

III. MedPAC Recommendations for Updating the Prospective Payment System Operating Standardized Amounts

In its June 2000 Report to Congress, MedPAC presented a combined operating and capital update for hospital inpatient prospective payment system payments for FY 2001 and recommended that Congress implement a single combined (operating and capital) prospective payment system rate. With the end of the transition to fully prospective capital payments ending with FY 2001, both operating and capital prospective system payments will be made using standard Federal rates adjusted by hospital specific payment variables. Currently, section 1886(b)(3)(B)(i)(XVI) of the Act sets forth the FY 2001 percentage increase in the prospective payment system operating cost standardized amounts. The prospective payment system capital update is set under the framework established by the Secretary outlined in § 412.308(c)(1).

For FY 2001, MedPAC's update framework supports a combined operating and capital update for hospital inpatient prospective payment system payments of 3.5 percent to 4.0 percent (or between the increase in the combined operating and capital market basket plus 0.6 percentage points and the increase in the combined operating and capital market basket plus 1.1 percentage points). MedPAC also notes that while the number of hospitals with negative inpatient hospital margins have increased in FY 1998 (most likely as the result of the implementation of Public Law 105–33), overall high inpatient Medicare margins generally offset hospital losses on other lines of Medicare services. MedPAC continues to project positive (greater than 11 percentage points) Medicare inpatient hospital margins through FY 2002.

MedPAC's FY 2001 combined operating and capital update framework uses a weighted average of HCFA's forecasts of the operating (prospective payment system input price index) and capital (CIPI) market baskets. This combined market basket was used to develop an estimate of the change in overall operating and capital prices. MedPAC calculated a combined market basket forecast by weighting the operating market basket forecast by 0.92 and the capital market basket forecast by 0.08, since operating costs are estimated to represent 92 percent of total hospital costs (capital costs are estimated to represent the remaining 8 percent of total hospital costs). MedPAC's combined market basket for FY 2001 is estimated to increase by 2.9 percent, based on HCFA's March 2000 forecasted operating market basket increase of 3.1 percent and HCFA's March 2000 forecasted capital market basket increase of 0.9 percent.

Response: As we stated in the May 5, 2000 proposed rule (65 FR 26317), we responded to a similar comment in the July 30, 1999 final rule (64 FR 41552), the July 31, 1998 final rule (63 FR 41013), and the September 1, 1995 final rule (60 FR 45816). In those rules, we stated that our long-term goal was to develop a single update framework for operating and capital prospective payments. However, we have not yet developed such a single framework as the actual operating system update has been determined by Congress through FY 2002. In the meantime, we intend to maintain as much consistency as possible with the current operating framework in order to facilitate the eventual development of a unified framework. We maintain our goal of combining the update frameworks at the end of the 10-year capital transition period (the end of FY 2001) and may examine combining the payment systems post-transition. Because of the similarity of the update frameworks, we believe that they could be combined with little difficulty.

The update framework analysis is a largely empirical process carried out by HCFA that quantifies changes in the hospital productivity, scientific and technological advances, practice pattern changes, hospital case mix, the effects of reclassification on recalibration, and forecast error correction. The update framework suggests an update for the prospective payment system operating standardized amounts ranging from of 2.4 percent (market basket minus 1 percent) to 2.9 percent (market basket minus 0.5 percent) is supported by the analyses outlined below.

A. Productivity

Service level productivity is defined as the ratio of total service output to full-time equivalent employees (FTEs). While we recognize that productivity is a function of many variables (for example, labor, nonlabor material, and capital inputs), we use a labor productivity measure since this update framework applies to operating payment. To recognize that we are apportioning the short-run output changes to the labor input and not considering the nonlabor inputs, we weight our productivity measure for operating costs by the share of direct labor services in the market basket to determine the expected effect on cost per case.

Our recommendation for the service productivity component is based on historical trends in productivity and total output for both the hospital industry and the general economy, and projected levels of future hospital service output. MedPAC's predecessor, the Prospective Payment Assessment Commission (ProPAC), estimated cumulative service productivity growth to be 4.9 percent from 1985 through 1989, or 1.2 percent annually. At the same time, ProPAC estimated total output growth at 3.4 percent annually, implying a ratio of service productivity growth to output growth of 0.35.

As stated in the proposed rule, since it was not possible at that time to develop a productivity measure specific to Medicare patients, we examined productivity (output per hour) and output (gross domestic product) for the economy. Depending on the exact time period, annual changes in productivity range from 0.3 to 0.35 percent of the change in output (that is, a 1.0 percent increase in output would be correlated with a 0.3 to 0.35 percent change in output per hour).

Under our framework, the recommended update is based in part on expected productivity—that is, projected service output during the year, multiplied by the historical ratio of service productivity to total service output, multiplied by the share of labor in total operating inputs, as calculated in the hospital market basket. This method estimates an expected labor productivity improvement in the same proportion to expected total service growth that has occurred in the past and assumes that, at a minimum, growth in FTEs changes proportionally to the growth in total service output. Thus, the recommendation allows for unit productivity to be smaller than the historical averages in years that output growth is relatively low and larger in years that output growth is higher than the historical averages. Based on the above estimates from both the hospital industry and the economy, we have chosen to employ the range of ratios of productivity change to output change of 0.30 to 0.35.

The expected change in total hospital service output is the product of projected growth in total admissions (adjusted for outpatient usage), projected real case-mix growth, expected quality-enhancing intensity growth, and net of expected decline in intensity due to reduction of cost-ineffective practice. Case-mix growth and intensity numbers for Medicare are used as proxies for those of the total hospital, since case-mix increases (used in the intensity measure as well) are unavailable for non-Medicare patients. Thus, expected output growth is simply the sum of the expected change in intensity (0.0 percent), projected admissions change (1.6 percent for FY 2001), and projected real case-mix growth (0.5 percent), or 2.1 percent. The share of direct labor services in the market basket (consisting of wages, salaries, and employee benefits) is 61.4 percent.

Multiplying the expected change in total hospital service output (2.1 percent) by the ratio of historical service productivity change to total service growth of 0.30 to 0.35 and by the direct labor share percentage 61.4, provides our productivity standard of -0.5 to -0.4 percent. In past years, MedPAC made an adjustment for productivity improvement to reflect the level of improvement in the production of health care services, without affecting the quality of those services. Typically, MedPAC made a downward adjustment in their framework to reflect expected improvements in hospital productivity. In their FY 2001 combined update framework, MedPAC did not make an adjustment for productivity. Instead, MedPAC believes that the costs associated with scientific and technological advances should be financed partially through improvements in hospital productivity. As a result, MedPAC offset its adjustment for scientific and technological advances by a fixed standard of expected productivity

growth of 0.5 percent for FY 2001. Our productivity adjustment of -0.5 to -0.4 percent is within the range of MedPAC's fixed standard of expected productivity growth of 0.5 percent used to offset its scientific and technological advances adjustment for FY 2001.

B. Intensity

We base our intensity standard on the combined effect of three separate factors: changes in the use of quality enhancing services, changes in the use of services due to shifts in within-DRG severity, and changes in the use of services due to reductions of cost-ineffective practices. For FY 2001, we recommended an adjustment of 0.0 percent. The basis of this recommendation is discussed below. We have no empirical evidence that accurately gauges the level of quality-enhancing technology changes. A study published in the Winter 1992 issue of the *Health Care Financing Review,* ''Contributions of case mix and intensity change to hospital cost increases'' (pp. 151–163), suggests that one-third of the intensity change is attributable to high-cost technology. The balance was unexplained but the authors speculated that it is attributable to fixed costs in service delivery.

Typically, a specific new technology increases cost in some uses and decreases cost in others. Concurrently, health status is improved in some situations while in other situations it may be unaffected or even worsened using the same technology. It is difficult to separate out the relative significance of each of the cost-increasing effects for individual technologies and new technologies.

Other things being equal, per-discharge fixed costs tend to fluctuate in inverse proportion to changes in volume. Fixed costs exist whether patients are treated or not. If volume is declining, per-discharge fixed costs will rise, but the reverse is true if volume is increasing.

Following methods developed by HCFA's Office of the Actuary for deriving hospital output estimates from total hospital charges, we have developed Medicare-specific intensity measures based on a 5-year average using FYs 1995 through 1999 MedPAR billing data. Case-mix constant intensity is calculated as the change in total Medicare charges per discharge adjusted for changes in the average charge per unit of service as measured by the CPI for hospital and related services and changes in real case-mix. Thus, in order to measure changes in intensity, one must measure changes in real case-mix.

For FYs 1995 through 1999, observed case-mix index change ranged from a low of -0.3 percent to a high of 1.7 percent, with a 5-year average change of 0.6 percent. Based on evidence from past studies of case-mix change, we estimate that real case-mix change fluctuates between 1.0 and 1.4 percent and the observed values generally fall in this range, although some years the figures fall outside this range. The average percentage change in charge per discharge was 3.6 percent and the average annual change in the CPI for hospital and related services was 4.1 percent. Dividing the change in charge per discharge by the quantity of the real case-mix index change and the CPI for hospital and related services yields an average annual change in intensity of -1.9 percent. Assuming the technology/fixed cost ratio still holds (.33), technology would account for a -0.6 percent annual decline while fixed costs would account for a -1.3 percent annual decline. The decline in fixed costs per discharge makes intuitive sense as volume, measured by total discharges, has increased during the period. In the past, we have not recommended a negative intensity adjustment. Although we did not recommend a negative adjustment for FY 2001, we reflected the possible range that such a negative adjustment could span, based on our analysis. Accordingly, for FY 2001, we recommended an intensity adjustment between 0 percent and -0.6 percent.

MedPAC does not make an adjustment for intensity per se, but its combined update recommendation for FY 2001 includes two categories that we consider to be comparable with our intensity recommendation. MedPAC is recommending a 0.0 to 0.5 percent update for scientific and technological advances to account for anticipated uses of emerging technologies that enhance the quality of hospital services, but increase costs of hospital care. The Commission recognized an allowance for science and technological advances of 0.5 percent to 1.0 percent. However, with their productivity offset of 0.5 percent, MedPAC's combined FY 2001 adjustment for science and technological advances is 0.0 percent to 0.5 percent.

MedPAC's recommendation also takes into account the increasingly apparent trend of some acute care providers to shift care to a post acute care facility. While this can occur for many reasons and the shifting of costs may maintain or improve quality of care for Medicare beneficiaries, it leads to a redistribution of payments and reduces the resources available for acute care providers to pay for services to other Medicare beneficiaries. In the past two years, MedPAC recommended a negative adjustment for site-of-care substitution or unbundling of the payment unit. However, in light of the financial pressures in the hospital industry during FYs 1998–1999 since the implementation of Public Law 105–33, MedPAC recommends a 0.0 percent adjustment for site-of-care substitution for FY 2001. We agree with MedPAC that the site-of-care substitution effect is real and that it is accounted for by our intensity recommendation.

C. Change in Case-Mix

Our analysis takes into account projected changes in case-mix, adjusted for changes attributable to improved coding practices. For our FY 2001 update recommendation, we projected a 0.5 percent increase in the case-mix index. We defined real case-mix as actual changes in the mix (and resource requirements) of Medicare patients as opposed to changes in coding behavior that results in assignment of cases to higher weighted DRGs, but do not reflect greater resource requirements. Unlike in past years, where we differentiated between ''real'' case-mix increase and increases attributable to changes in coding behavior, we do not feel changes in coding behavior will impact the overall case-mix in FY 2001. As such, for FY 2001, we estimate that real case-mix is equal to projected change in case-mix. Thus, we recommended a 0.0 adjustment for case-mix.

MedPAC's analysis indicates that coding change has reduced case-mix index growth. In the past, MedPAC has recommended a negative adjustment when DRG coding changes has led to case-mix index growth. However, MedPAC now believes that it is appropriate to include a positive adjustment for DRG coding change in the FY 2001 update and recommends a combined adjustment of 0.5 percent.

MedPAC also makes an adjustment for within DRG severity. In past years, MedPAC has included an adjustment for increased case complexity not captured by the DRG classification system. The Commission recognizes that as the DRG system adjusts, it should account for more of the variation in costs by DRG assignment, leaving less within-DRG variation in case complexity and costliness. Therefore, MedPAC recommended a combined adjustment of 0.0 for FY 2001. As a result, for FY 2001, MedPAC recommends a total combined case-mix adjustment of 0.5 percent.

D. Effect of FY 1999 DRG Reclassification and Recalibration

We estimate that DRG reclassification and recalibration for FY 1999 resulted in a 0.0 percent change in the case-mix index when compared with the case-mix index that would have resulted if we had not made the reclassification and recalibration changes to the GROUPER.

E. Forecast Error Correction

We make a forecast error correction if the actual market basket changes differ from the forecasted market basket by 0.25 percentage points or more. There is a 2-year lag between the forecast and the measurement of forecast error. Our proposed update framework for FY 2001 did not reflect a forecast error correction because, for FY 1999, there was less than a 0.25 percentage point difference between the actual market basket and the forecasted market basket.

MedPAC also made a recommendation in its FY 2001 combined update framework to adjust for any error in the market basket forecasts used to set FY 1999 payment rates.

MedPAC recommended a combined adjustment for FY 1999 forecast error correction of 0.1 percent. However, they noted that this forecast error adjustment is a result of the difference between the forecasted FY 1999 operating market basket of 2.4 percent and the actual FY 1999 operating market basket increase of 2.5 percent. The FY 1999 capital market basket forecast was equal to the actual observed increase of 0.7 percent for capital costs. Therefore, we have included MedPAC's entire 0.1 percent adjustment for FY 1999 forecast error correction in the comparison of MedPAC and HCFA's update recommendations for FY 2001 shown below in Table 1.

F. One Time Factors

MedPAC includes an adjustment for one-time factors in its update framework to

account for significant costs incurred by hospitals for unusual nonrecurring events. While MedPAC's update framework has not explicitly considered such costs in the past, the Commission believes Medicare should aid hospitals when incurring systematic and substantial one-time costs will improve care for Medicare beneficiaries. For its FY 2001 update recommendation, MedPAC considered the costs of year 2000 improvements and the costs of major new regulatory requirements. The Commission did not recommend any additional allowance for these costs for FY 2001. Accordingly, MedPAC recommended a 0.0 percent combined adjustment for one-time factors in their update framework for FY 2001.

HCFA's update framework does not include an adjustment for one-time factors. As we mentioned in last year's proposed rule, higher input prices that hospitals incur to convert computer systems to be compliant on January 1, 2000, were accounted for through the market basket percentage increase.

TABLE 1.—COMPARISON OF FY 2001 UPDATE RECOMMENDATIONS

	HCFA	MedPAC
Market basket	MB	MB[1]
Policy Adjustment Factors		
Productivity	−0.5 to −0.4	(2)
Site-Of-Service Substitution	(3)	0.0
Intensity	0.0 to −0.6	
Science & Technology		0.0 to 0.5
Practice Patterns		(4)
Real Within DRG Change		(5)
Subtotal	−0.5 to −1.0	0.0 to 0.5
Case-Mix Adjustment Factors		
Projected Case-Mix Change	−0.5	
Real Across DRG Change	0.5	0.5
Real Within DRG Change	(3)	0.0
Subtotal	0.0	0.5
Effect of FY 1999 Reclassification and Recalibration	0.0	
Forecast Error Correction	0.0	0.1
Total Recommendation Update	MB −0.5 to MB −1.0	MB[1] + 0.6 to MB[1] +1.1

[1] Used HCFA's March 2000 operating market basket forecast in its combined update recommendation.
[2] Included in MedPAC's Science and Technology Adjustment.
[3] Included in HHS' Intensity Factor.
[4] Included in MedPAC's Productivity Measure in its Science and Technology Adjustment.
[5] Included in MedPAC's Case-Mix Adjustment.

MedPAC's combined update recommendation of between 3.5 percent and 4.0 percent for FY 2001 operating and capital payments is higher than the current law amount as set forth by Public Law 105–33 and the amount in the proposed rule. While the above analysis would support a recommendation that the update be between than the operating market basket minus 0.5 percentage points and the operating market basket minus 1.0 percentage points, consistent with current law we recommended an update of market basket increase minus 1.1 percentage points (or 2.3 percent). We note that this approximates the lower bound of the range suggested by our framework when accounting for a negative intensity change.

IV. Secretary's Final Recommendations for Updating the Prospective Payment System Standardized Amounts

In recommending an update, the Secretary takes into account the factors in the update framework, as well as other factors such as the recommendations of MedPAC, the long-term solvency of the Medicare Trust Funds, and the capacity of the hospital industry to continually provide access to high-quality care to Medicare beneficiaries through adequate reimbursement to health care providers.

To ensure that beneficiaries continue to have access to high-quality care and to allow more time to assess the full impact of Public Law 105–33 and Public Law 106–113, the Secretary recommends an update of 3.4 percent (full market basket) for FY 2001. We note that this recommendation requires a change in law. The FY 2001 President's Budget Mid-Session Review, released on June 26, 2000, included a proposal to provide for the full market basket update for FY 2001. We will continue to evaluate our current framework to ensure that the recommended update appropriately reflects current trends in health care delivery and that Medicare acts as a prudent purchaser providing incentives to hospitals for increased efficiency, thereby contributing to the solvency of the Medicare Part A Trust Fund.

We received one comment concerning our proposed update recommendation.

Comment: One commenter stated that the continual update and routine replacement of procedures with more sophisticated, higher cost procedures is not picked up within the HCFA pricing system, particularly the use of pharmaceuticals and other scientific and technological advances. The commenter argued that the market basket minus 1.1 percent update for FY 2001 does not recognize the true impact of these factors on hospital-based payments, noting that from FYs 1998 through 2000 the cumulative market basket rose significantly higher than the Medicare operating prospective payment system updates, which were mandated by Public Law 105–33.

Response: By design, the market basket captures only the pure price change of inputs such as labor, materials, and capital that are used to produce a constant quantity and quality of care. This is done using price proxies that reflect the prices of the major inputs hospitals utilize in providing care. For pharmaceuticals, the price proxy used is the Producer Price Index (PPI) for pharmaceutical preparations produced by Bureau of Labor Statistics. This price proxy captures the price change of 'new' pharmaceuticals after they are introduced and the price changes between new drugs that replace existing drugs or generic drugs that replace brand-name drugs.

The market basket appropriately does not recognize the introduction or the increased

utilization of 'new' scientific and technological advances. Instead, these factors, including the increased use of 'new' pharmaceutical drugs, would be reflected in the intensity adjustment of the update framework. Our intensity standard is partly based on changes in the use of quality enhancing services or technology changes (along with changes in case-mix). HCFA's update recommendation uses this adjustment to account for the additional costs of adopting and utilizing new advances that an efficient provider would face in providing a high quality of patient care.

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